Rule WLM013: Response goal was specified for server service class

Finding: CPExpert noticed that a response goal was specified for a service class that was a "server" service class.

Impact: This finding should be viewed as generally having a LOW IMPACT on the performance of the workload involved.

Logic flow: This a basic finding. There are no predecessor rules.

Discussion: If subsystems are installed which support Workload Manager reporting (e.g., CICS/ESA Version 4.1 or IMS/ESA Version 5), installations can define service classes which describe particular transaction types and specify performance goals for the transactions in the service class. All transactions entering the system which fall into the workload category described by the service class are associated with the service class.

For example, an installation may wish to group all CICS transactions relating to personnel matters into a CICSPERS Service Class. The installation would define classification rules to the Workload Manager so all transactions relating to personnel matters would be placed into the CICSPERS Service Class. The installation would specify a performance goal for the CICSPERS Service Class, and an importance level for the goal.

The CICS region would report transaction performance information to the Workload Manager, and the Workload Manager would attempt to manage system resources to meet the performance goal specified for the CICSPERS Service Class.

The controlling address space must be in its own service class. In our example, suppose that the CICS region is placed into the CICSRGN Service Class. The CICSRGN Service Class would be considered a "server" and the CICSPERS Service Class may be one of several "served" service classes controlled by the CICSRGN Service Class (other CICS service classes "served" by the CICSRGN "server" may be related procurement, administration, miscellaneous, etc.).

The CICSRGN will have its own performance goals and importance. However, these performance goals and importance are used by the Workload Manager **only at address space start-up** time. After the CICS region has started, its performance goals and importance are ignored by

the Workload Manager. The Workload Manager will allocate resources based upon the performance goals and importance of the "served" service classes (in our example, the allocation will be based upon the performance of the CICSPERS transactions, and other "served" service classes served by the CICSRGN Service Class)[1].

Of particular importance to this finding is the fact that the Workload Manager detects that a service class is not meeting its response goal based on the response experienced by a work element (either a job or a transaction) executing in the service class. The Workload Manger can measure the response of a job or transaction only when the job or transaction ends. Thus, the Workload Manger detects that the service class is not meeting its response performance goal based on the response experienced by **previously-ended** jobs or transactions.

Address spaces in a "server" service class do not report an "ended transaction" until the address space ends[2]. Once the address space ends, there is no further policy adjustment necessary by the Workload Manager. Consequently, a response goal will be completely ineffective for a server service class.

CPExpert produces Rule WLM013 when a response goal is specified for a server service class.

The following example illustrates the output from Rule WLM013:

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RULE WLM013:  RESPONSE GOAL WAS SPECIFIED FOR SERVER SERVICE CLASS.

   CPExpert noticed that a response performance goal was specified for the
   CICSTEST Service Class.  This service class is a "server" service class.
   The performance goal of the server is used only at address space start-up
   and termination.  The performance goal is not used by the Workload Manger
   to evaluate the performance of the transactions served by the server.
   You should specify an execution velocity goal for the server.
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Suggestion: CPExpert suggests that you specify an execution velocity performance goal for the server service class identified by this rule.

[1]This statement is not **strictly** true. If the CICS region should become idle for an extended period (no transactions executed in the "served" service classes), the Workload Manager would use the service goal and importance specified for the CICS region service class to manage the region. Practically, of course, there would be little to manage with an idle region.

[2]There is an exception to this, in case the System Resources Manager (SRM) detects that internal variables are in danger of overflowing. If the SRM detects a danger of overflow for an address space, the SRM will "end" the address space internally and "restart" the address space. Consequently, there may be "ended transactions" for a server address space even though the address space has not ended from an external view. These situations should be extremely rare and normally occur only if the MSO service coefficient is set to a value greater than one or in cases of "never-ending" address spaces.

Practically, the performance goal has little effect since it applies only at address space start-up. After the CICS region has started, its performance goals and importance are ignored by the Workload Manager. The Workload Manager will allocate resources based upon the performance goals and importance of the "served" service classes.

However, you may wish to specify a relatively high execution velocity goal to ensure rapid start-up of the CICS region.

Reference: MVS Planning: Workload Management

MVS/ESA(SP 5):	Chapter 12: Defining Service Units and Coefficients
OS/390 (V1R1):	Chapter 12: Defining Service Units and Coefficients
OS/390 (V1R2):	Chapter 12: Defining Service Units and Coefficients
OS/390 (V1R3):	Chapter 11: Defining Service Units and Coefficients
OS/390 (V2R4):	Chapter 11: Defining Service Units and Coefficients
OS/390 (V2R5):	Chapter 11: Defining Service Units and Coefficients
OS/390 (V2R6):	Chapter 11: Defining Service Units and Coefficients
OS/390 (V2R7):	Chapter 11: Defining Service Units and Coefficients
OS/390 (V2R8):	Chapter 11: Defining Service Units and Coefficients
OS/390 (V2R9):	Chapter 11: Defining Service Units and Coefficients
OS/390 (V2R10):	Chapter 11: Defining Service Units and Coefficients
z/OS (V1R1):	Chapter 11: Defining Service Units and Coefficients
z/OS (V1R2):	Chapter 11: Defining Service Units and Coefficients
z/OS (V1R3):	Chapter 11: Defining Service Units and Coefficients
z/OS (V1R4):	Chapter 11: Defining Service Units and Coefficients

"Migrating to the MVS Workload Manager", Peter Enrico (IBM Corporation Workload Manager developer), 1995 SHARE Winter Meeting

